



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,833	01/14/2004	Shunpei Yamazaki	0756-7247	2372
31780	7590	06/10/2009	EXAMINER	
ERIC ROBINSON			CHIEN, LUCY P	
PMB 955			ART UNIT	
21010 SOUTHBANK ST.			PAPER NUMBER	
POTOMAC FALLS, VA 20165			2871	
			MAIL DATE	DELIVERY MODE
			06/10/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/756,833	<b>Applicant(s)</b> YAMAZAKI ET AL.	
	<b>Examiner</b> LUCY P. CHIEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20, 46-55, 57, 59 and 60 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 9, 10, 13, 14, 46, 47, 49, 51, 53, 55, 57 and 59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-8, 11, 12, 15-20, 50, 52, 54, 60 and 78 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/14/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/23/2009</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/23/2009 has been entered.

### ***Election/Restrictions***

Applicant's election without traverse of Species I in the reply filed on 3/24/2009 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1,3,7,11,48,50,52,54,60** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) in view of Jones et al (US 6417899).

#### *Regarding Claim 1,3,7,11,60,*

Yamazaki et al discloses (Fig. 12 and Fig. 13) a second plastic substrate (1001) a insulating film (102) a semiconductor device (TFTs) formed on the insulating film (102)

a liquid crystal cell (1004) electrically connected to the semiconductor device (202, TFT) and a second substrate (1001) wherein the semiconductor device (TFT) and the liquid crystal cell (1004) are formed between the first substrate (1108) and the second plastic substrate (1008); an adhesive (1107) adhering the insulating (102) layer with the substrate (1108).

Yamazaki et al does not disclose a light emitting device formed in the concave portion of the first substrate a resin covering the light emitting device; wherein the first plastic substrate is larger than the second substrate; wherein the metal film is formed over the concave portion. A polarizing plate formed over the resin, an insulating film adhered to the polarizing plate with an adhesive.

Okazaki et al discloses (Fig. 6 and Fig.10) a first substrate (16) a light emitting diode (Column 3, lines 17-30) formed in the concave portion (20) of the first substrate (also formed over the first substrate) (16) a metal film (19) formed over the plastic substrate (16), a resin (Column 3, lines 17-30) covering the light emitting device (1) used as back light for liquid crystal displays. Therefore, the first substrate of Yamazaki (1108) would have Okazaki's concavity with an LED surrounded by a resin attached to Yamazaki's adhesive (1107). This device is used to improve the light emission efficiency and the quality of the product (Column 2, rows 35-40).

Shiraishi discloses the first substrate (11) is larger than the second substrate (12) to provide extra length portion (3) to have the terminal portion (31).

Jones et al discloses (Fig. 4) an internal polarizer (65) is added to Yamazaki's display. The internal polarizer can be placed into Yamazaki's display in between 117

and 1106. Therefore, the polarizing plate would be formed over the resin of Okazaki et al. It is known in the art to use adhesive layers to provide better mutual adhesions between layers.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify Yamazaki's display to include Okazaki et al's light emitting device to improve the light emission efficiency and the quality of the product (Column 2, rows 35-40) and to include Shiraishi's larger first substrate motivated by the desire to provide a extra length portion to have a terminal portion [0009]. To also include Jones et al's internal polarizer motivated by the desire to minimize adverse environmental effects. (column 10, rows 49-56).

Regarding Claim 48,50,

In addition to Yamazaki, Okazaki et al, Jones et al, and Shiraishi as disclosed above, Okazaki et al discloses (Column 8, rows 30-34) the resin comprises a transparent particle.

Regarding Claim 52,54,

In addition to Yamazaki, Okazaki et al, Jones et al, and Shiraishi as disclosed above, Okazaki et al discloses (Column 3, rows 1-10) the light emitting device includes a pair of electrodes. Thus preventing the appearance of the product from deteriorating when the surface mounting of the light emitting element is soldered. (Column 3, rows 32-38). It would have been obvious to one of ordinary skilled in the art to modify Kim et al's display to include Okazaki et al's pair of electrodes motivated by the desire to

prevent the appearance of the product from deteriorating when the surface mounting of the light emitting element is soldered (Column 3, rows 32-38).

**Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899 in view of Oguchi et al (US 4648691)

Regarding Claim 5.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the metal film being sand blasted.

Oguchi et al discloses sand blasting the metal film in order to form a rugged surface suitable to be used in a display to provide a higher degree of whiteness. (Col. 8, rows 21-37)

It would have been obvious to one of ordinary skilled in the art to modify Okazaki et al, Jones et al, Shiraishi I and Yamazaki's display to include Oguchi et al's sand blasting method of the metal film in order to form a rugged surface suitable to be used in a display to provide a higher degree of whiteness. (Col. 8, rows 21-37)

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable of Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US

20010012089) and of Jones et al (US 6417899 in view of Yokoyama et al (US 20020041348).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the use of a transparent liquid crystal.

Yokoyama et al in the abstract discloses the use of a transparent liquid crystal cell that controls passage of light emitted from the surface (see abstract).

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify Okazaki et al, Jones et al, Shiraishi and Yamazaki to include Yokoyama et al's transparent liquid crystal to control passages of the light emitted from the surface of the display (see abstract).

**Claim 8,12,**are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899 in view of Weindorf et al (US 20020130985).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the use of a flexible printed wiring board.

Weindorf et al discloses (Page 3, [0033]) using a flexible printed wiring board connected to the i-emitting diode that is supplied with current to eliminate the need for daughter boards or other LED's which are more expensive.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify of Okazaki et al, Jones et al, Shiraishi and Yamazaki to include Weindorf's flexible printed wiring board to eliminate the need for daughter boards or other interconnecting devices or the more expensive side-lighting LEDs also to provide the display with flexibility (Page 3, [0033]).

**Claim 15,17,18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899) in view of Chaudhari et al (US 6331381).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the liquid crystal displays used in a cellular phone, wrist watch, and personal computer.

Chaudhari et al discloses (Column 1, Row 13-16) the use of LCD's in a cellular phone, wrist watch, and personal computers to provide a displaying image in the products.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify of Okazaki et al, Jones et al, Shiraishi and Yamazaki include



Chaudhari et al's liquid crystal displays in a cellular phone, wrist watch, and personal computers with a display that is light and thin such as an LCD.

**Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899) in view of Kawagoe et al (US 5781263).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the liquid crystal displays used in an electronic book.

Kawagoe et al discloses (Column Row) the use of a LCD in an electronic book.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify Okazaki et al, Jones et al, Shiraishi and Yamazaki to include Kawagoe et al's liquid crystal displays in an electronic book to provide it with a display that is light and thin such as an LCD.

**Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899) in view of Washizuka et al (US 4202607).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the liquid crystal displays used in a front glass.

Washizuka et al discloses (Abstract) the use of an LCD in a front glass such as a mirror or window.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify of Okazaki et al, Jones et al, Shiraishi and Yamazaki to include Washizuka et al's liquid crystal displays in a front glass to provide the front glass with a display that is light and thin such as an LCD.

**Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 20010040645) and of Okazaki et al (US 5298768) and of Shiraishi (US 20010012089) and of Jones et al (US 6417899) in view of Boutaleb et al (US 4536014).

Yamazaki, Okazaki et al, Jones et al, and Shiraishi disclose everything as disclosed above.

Yamazaki, Okazaki et al, Jones et al, and Shiraishi do not disclose the liquid crystal displays used in an electronic card.

Boutaleb et al discloses (Column 4, Row 13-24) the use of a LCD in a credit card.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to modify of Okazaki et al, Jones et al, Shiraishi and Yamazaki to include

Boutaleb et al's liquid crystal displays in an electronic card to provide the electronic card with a display that is light and thin such as an LCD.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien  
Examiner  
Art Unit 2871

Application/Control Number: 10/756,833

Page 11

Art Unit: 2871

/David Nelms/

Supervisory Patent Examiner, Art Unit 2871